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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,845	09/09/2003	Mark K. Reinking	88-2050A	2120
24114	7590	03/15/2005	EXAMINER	
LYONDELL CHEMICAL COMPANY 3801 WEST CHESTER PIKE NEWTOWN SQUARE, PA 19073			LU, C CAIXIA	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 03/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

4D

Office Action Summary	Application No. 10/657,845	Applicant(s) REINKING ET AL.	
	Examiner Caixia Lu	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/20/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: page 3, line 5, the content of "Pending Appl. Ser. No. 10/137,852, now allowed," should be update as --US 6,643,326--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 6,818,713) in view of Meyer et al. (US 6,642,326) and Marks et al. (US 5,578,690).

The instant claims are directed to an olefin polymerization process in the presence of a bridged indenoindolyl Group 5-6 transition metal complex, an activator and a hydrosilanes modifier.

Wang teaches an ethylene polymerization process in the presence of a bridged indenoindolyl Group 5-6 transition metal complex and an activator, which encompass those of the instant claims (col. 4, lines 32-65, and col. 9, lines 3-31). However, Wang does not teach the use of a silane modifier in the polymerization process.

Art Unit: 1713

Meyer teaches the use of a silane modifier in an olefin polymerization process in the presence of a metallocene complex (col. 3, line 41 to col. 4, line 10, and col. 5, Table 1). Meyer's data of Table shows that suitable amount of specific Si-H containing modifier can increase the polymerization activity with slight lowered molecular weight (Examples 1, 3 and 6), or increase molecular weight of the polymer with slight lowered activity (Comparative Example 4).

Marks teaches using hydrosilanes as a chain transfer agent in an olefin polymerization process in the presence of metallocene catalyst composition (col. 1, lines 7-14).

Wang, Meyer and Marks are analogous because they both are from the same area of endeavor of metallocene catalyst composition for olefin polymerizations.

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ the Si-H containing modifier of Meyer or Marks to Wang's polymerization process to provide a catalyst composition with optimized activity and a polyolefin with desired molecular weight since such is conventionally done in the art and in the absence of any showing of criticality and unexpected results.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See Form-892.

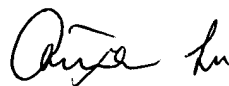
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The

Art Unit: 1713

fax numbers for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.



Caixia Lu, Ph. D.
Primary Examiner
March 5, 2005